

THE GENUS *IBERVILLEA* (CUCURBITACEAE):
AN ENUMERATION OF THE SPECIES AND
TWO NEW COMBINATIONS

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ABSTRACT

Ibervillea, a genus of tuberous perennial cucurbits of xeric environments, is closely related to *Doyerea*, *Tumamoca*, *Halosicyos*, and *Ceratosanthes*. These five New World genera, together with the African *Corallocarpus*, *Dendrosicyos*, *Kedrostis*, *Seyrigia*, and *Trochomeriopsis*, form a monophyletic lineage in the subtribe Dendrosicyinae (tribe Melothrieae), defined by the presence of tumescent seeds with reddish aril-like coverings. *Ibervillea* can be distinguished from the rest of the Dendrosicyinae by its bifid petal apices, which are infolded in bud. *Ibervillea* is currently considered to have nine species, of which two are new combinations: *Dieterlea fusiformis* becomes *I. fusiformis*, and *Corallocarpus guatemalensis* becomes *I. guatemalensis* (and is not *Doyerea emetocathartica* as suggested by previous authors).

RESUMEN

Ibervillea, un género de Cucurbitáceas tuberosas, perennes de ambientes xéricas, está cercana a *Doyerea*, *Tumamoca*, *Halosicyos*, y *Ceratosanthes*. Estes cinco géneros del Nuevo Mundo, juntos con los géneros Africanos *Corallocarpus*, *Dendrosicyos*, *Kedrostis*, *Seyrigia*, y *Trochomeriopsis*, forman un línea monofilética en el subtribo Dendrosicyinae (tribo Melothrieae), definida por la presencia de semillas tumescentes con cobertura rojizas como arilos. *Ibervillea* se distingue del resto de los Dendrosicyinae por los apices bífidos de los pétalos que se envuelven en botón. *Ibervillea* hoy día se considera comprender nueve especies, de los cuales dos son nuevas combinaciones: *Dieterlea fusiformis* llega a ser *I. fusiformis*, y *Corallocarpus guatemalensis* llega ser a *I. guatemalensis* (no *Doyerea emetocathartica* como sugirieron previos autores).

Ibervillea Greene is one of five closely related, New World genera in the tribe Melothrieae, subtribe Dendrosicyinae (Jeffrey 1978, 1990). The five genera (*Ibervillea*, *Doyerea* Grosourdy, *Tumamoca* Rose, *Halosicyos* Mart. Crov., and *Ceratosanthes* Burm. ex Adans.) are generally found in xeric environments, have perennial, tuberous rootstocks, and fruits that turn orange or reddish at maturity. Their seeds are pyriform or spheroid, tumescent, and generally have prominent margins. A reddish aril-like flesh surrounds each seed. When the fruits are mature, birds peck holes in the brightly colored pericarp and remove the seeds, ostensibly effecting dispersal. Smaller fruits may be ingested whole. Flowers can be either nocturnal or diurnal, with species monoecious or dioecious.

This New World group of the Dendrosicyinae are closely related to the African genera *Corallocarpus* Hook. f., *Dendrosicyos* Balf. f.,

Kedrostis Medik., *Seyrigia* Keraudren, and *Trochomeriopsis* Cogn. on the basis of having tumid seeds with aril-like coverings and thecae lacking a fringe of hairs (Jeffrey 1978). The other New World Dendrosicyinae (*Apodanthera* Arn., *Cucurbitella* Walp., *Guraniopsis* Cogn., *Melothrianthus* Mart. Crov., and *Wilbrandia* Manso) also lack hair on the thecae, but have seeds which are somewhat flattened and which lack the reddish, aril-like covering. In addition, the fruits of this latter group are often ribbed or slightly sulcate, in contrast to the smooth fruits of *Ibervillea* and more closely related genera. The exact relationship between the African and New World "arilate" Dendrosicyinae awaits further study.

Following a key to the five closely related New World Dendrosicyinae, a review to the nomenclature of *Ibervillea* is presented. Some names used in recent floristic accounts (Correll and Johnston 1970; Hatch et al. 1990; Johnston 1990; Lira 1988) are now considered to be synonyms or misapplied and two new combinations are made. Although a complete revision of *Ibervillea* is in progress (Kearns and Lira in prep.), the nomenclatural changes are presented now, so they may be used in upcoming floristic treatments.

KEY TO *IBERVILLEA* AND RELATED NEW WORLD GENERA IN THE DENDROSICYINAE

1. Flowers rotate to broadly campanulate, <5 mm wide; plants dioecious; both staminate and pistillate flowers in dense glomerate clusters (extremely compacted racemes), often appearing on leafless stems; fruits oblong, in dense clusters, 1–2 cm long *Doyerea*
- 1'. Flowers elongate-funnelform, salverform to campanulate-salverform, mostly >5 mm wide and up to 50 mm wide; plants monoecious or dioecious; staminate flowers in racemes with long peduncles (occasionally compacted), pistillate flowers solitary or racemose, appearing with leaves (on leafless stems in some *Ceratosanthes*); fruits globose, oblong, or fusiform, solitary or racemose, (1–)2–15 cm long, when small, then globose.
 2. Petals infolded or inrolled in bud, with bifid apices (entire in *Ibervillea fusiformis*), densely or sparsely pubescent.
 3. Petal lobes long and narrow, inrolled in bud; petal margins entire; hypanthia narrowly funnelform; female flowers in racemes or solitary, with 2 style branches and placentae; often flowering when leafless, dioecious or monoecious *Ceratosanthes*
 - 3'. Petal lobes short and broad, infolded in bud; petal margins undulate; hypanthia campanulate to cylindrical; female flowers always solitary, with 3–5 style branches and placentae; flowers always appearing with leaves, dioecious *Ibervillea*
 - 2'. Petals valvate in bud, with entire apices, lightly papillate or glabrous.
 4. Plants dioecious; petals lightly papillate, with rounded apices; hypanthia campanulate-cylindrical; styles 2-branched; seeds with prominent margins and smooth surfaces *Halosicyos*
 - 4'. Plants monoecious; petals glabrous, with acute apices; hypanthia narrowly elongate-funnelform; styles 3-branched; seeds with obscure margins and rugose surfaces *Tumamoca*

Ibervillea Greene, *Erythea* 3:75. 1895.—TYPE SPECIES: *Ibervillea lindheimeri* (A. Gray) Greene. *Maximowiczia* Cogn. in A. & C. DC., *Monogr. Phan.* 3:726. 1881, non Ruprecht 1856. *Dieterlea* E. J. Lott, *Brittonia* 38:407. 1986., syn. nov.

Climbing, dioecious perennials of xeric environments; rootstocks tuberous; stems perennial or annual; tendrils simple. Leaves slightly lobed to highly divided, lacking leaf glands; lobes broad to narrow. Inflorescences of male flowers in racemes (occasionally congested), and female flowers solitary. Flowers 8–60 mm long; petals yellow (whitish in *I. fusiformis* [E. J. Lott] Kearns), clawed, densely pubescent inside, with broadly bifid apices infolded in bud (entire in *I. fusiformis*); margins undulate; stamens 3 (2 bithecal, 1 monothecal) free to tightly connivent; thecae 5, straight. Fruits fleshy berries, globose to fusiform or oblong, green with linear arrays of white spots when young, turning dark orange at maturity. Seeds many, tumescent, with prominent margins, enveloped by a red or orange fleshy aril-like covering, apparently dispersed by birds. 9 species.

Ibervillea is found in the southwestern United States (Texas, New Mexico, Arizona), throughout the drier regions of Mexico and Belize, and in the dry central valley of southern Guatemala. All nine species occur in Mexico.

1. ***Ibervillea fusiformis*** (E. J. Lott) Kearns, comb. nov. *Dieterlea fusiformis* E. J. Lott, *Brittonia* 38:407. 1986.—TYPE: MEXICO, Jalisco: Mpio. La Huerta, Estación de Biología Chamela U.N.A.M., Vereda El Tejón, 800 m, 17 Jul 1984. *Magallanes* 4252 (holotype: MEXU; isotypes: CAS, ENCB, MICH!, MO!, NY!).

Representative specimens. MEXICO, COLIMA: Municipio Manzanilla, Los Periquillas, 19 Jan 1986, *Lott* 2754 (NY). JALISCO: Hwy 200, 3.8 mi N of road to Tomatlan, 9 Sep 1985, *Kearns* 258 (MEXU, TEX); SE of Estación de Biología Chamela (UNAM), 9 Sep 1983, *Lott* 1849 (MEXU). SINALOA: Cerros del Fuerte, 18–24 mi N of Los Mochis, 25 Sep 1954, *Gentry* 14290 (US). SONORA: 14.2 mi N of Alamos on road to San Bernardo, 27 Aug 1985, *Kearns* 196 (MEXU, TEX).

Study of *Ibervillea*, including newly discovered species and additional collections of poorly-known taxa, has led to the conclusion that *Dieterlea* E. J. Lott does not merit recognition as a separate genus and that the single species must be positioned in *Ibervillea*. *Dieterlea* was established (Lott 1986) for a species (herein recognized as *I. fusiformis*) from Jalisco with large yellowish-white, nocturnal flowers and large fruits. Although closely related, Lott separated *Dieterlea* from *Ibervillea* by its perennial stems, much larger white

nocturnal flowers, connate anthers, four or five placentae, four or five bilobed stigmas, and five staminodia. These characters, however, are now known to occur in some species of *Ibervillea*.

Ibervillea fusiformis is aligned with the group consisting of *Ibervillea maxima* Lira & Kearns, *I. hypoleuca* (Standl.) C. Jeffrey, and *I. guatemalensis* (Standl. & Steyerl.) Kearns. These species also have perennial stems, large fruits, branched rootstocks, and a similar leaf pubescence. The only closely related species for which we have good pistillate material, *I. maxima*, also has five placentae and stigmas. Other species of *Ibervillea*, such as *I. tenuisecta*, have three placentae and stigmas. All species of *Ibervillea* investigated have five staminodia.

Lott also considered connate anthers as a distinguishing feature of *Ibervillea fusiformis*. The anthers of this species, however, can be teased apart with a dissecting needle (in FAA-preserved flowers). The anthers of *I. guatemalensis* are almost as closely adherent, thus also appearing fused, whereas other species of *Ibervillea* have completely free anthers. Although the anthers of *I. fusiformis* are more tightly adherent than those of the other species of *Ibervillea*, this character state is merely an extreme of a continuum and does not represent a disjunct evolutionary development.

Not all species of *Ibervillea* have diurnal flowers. The flowers of *I. fusiformis* bloom late at night, well after sunset (ca. 12:00 midnight), and close in early morning, after dawn. Those of *I. maxima* also open at night (ca. 9–11:00 p.m.), but remain open during the following day. *Ibervillea guatemalensis* and *I. hypoleuca* flowers open before dawn (sometime between 3:30 and 6:30 a.m.) and close in the early afternoon. The flowers of *I. lindheimeri*, *I. tenuisecta*, and *I. sonorae* (S. Wats.) Greene all open in the early morning, after dawn, and close in the afternoon. Given the variation in the timing of anthesis in the other species of *Ibervillea*, there is no reason to segregate *I. fusiformis* on the basis of nocturnal flowering.

One qualitative distinction between *Ibervillea fusiformis* and the rest of the genus is in the nature of the petal apices. For all species of *Ibervillea* except *I. fusiformis*, the petal apices are broadly bifid. The petal apices of *I. fusiformis*, however, are entire, the difference possibly in response to the presumed pollinators, sphingid moths (Lott 1986). The pollinators of other species of *Ibervillea* are bees (diurnal-flowering plants) or unknown (nocturnal-flowering plants).

Other than those discussed above, the characters which clearly place *Dieterlea* within *Ibervillea* include densely pubescent clawed petals with ruffled margins. Although the large yellow-white flowers of *Dieterlea* appear quite different from the small yellow flowers of some species of *Ibervillea*, the female flowers of *I. maxima* are only slightly more yellow in color than the flowers of *I. fusiformis*. A

comparison of all species of *Ibervillea* clearly demonstrates that *Dieterlea* can no longer be maintained as a separate genus.

2. *Ibervillea maxima* Lira & Kearns, *Sida* 14:223–226. 1990.—TYPE: UNITED STATES, Texas: cultivated in Austin 1986–1989 using seed from *Kearns and Kearns 390*, Nayarit, Mexico, along W side of hwy 15 at km 39, 140 m, 27 Mar 1986, *Kearns C-390* (holotype: MEXU!; isotypes: BM!, BRIT!, CHAPA!, CAS!, ENCB!, F!, GUAD!, IBUG!, K!, MICH!, MO!, NY!, TEX!, UC!, US!, XAL!).

Representative specimens. MEXICO, JALISCO: near Zapotlan, 27 May 1893, *Pringle 5504* (MICH, NY, US); Sierra de San Juan, San Juan Cosala, 8 Jul 1974, *Díaz 5251* (MICH). NAYARIT: Mirador de Aguila, 14 km N of Tepic, 10 Jul 1957, *McVaugh 15292* (MICH); 8 mi E of San Blas, 7 Nov 1961, *Gentry 19479* (US). SINALOA: Foothills of the Sierra Madre, 14 July 1897, *Rose 1659* (NY, US).

Plants from which the type material was obtained are still under cultivation in the author's living collection (currently in St. Louis). Since one previously sterile specimen has finally started to produce pistillate flowers, there will be an opportunity in the future to provide pistillate material as an adjunct to the staminate type specimens.

3. *Ibervillea hypoleuca* (Standl.) C. Jeffrey, *Kew Bull.* 33:349. 1978. *Corallocarpus hypoleucus* Standl., *Publ. Field Mus. Nat. Hist., Bot. Ser.* 17:223. 1937.—TYPE: MEXICO, Guerrero: south of Acapulco, on road near La Sabana, 60 m, 25 Aug 1935. *MacDaniels 266* (holotype: F!, photo K!).

Representative specimens. MEXICO, JALISCO: 16 km N of Ciudad Guzmán, 13 Nov 1971, *Dieterle 4182* (MICH); 5.6 mi N of Tecalitlan, 3 Oct 1986, *Kearns 463* (MEXU, TEX); Bahia Tena-catita, between Bahia Navidad and La Manzanilla, 12 Nov 1960, *McVaugh 21018* (MICH). MICHOACAN: 15–16 km SE of Asserradero Dos Aguas, 25–26 Nov 1970, *McVaugh 24728* (MICH); road to Jiquilpan, 3 km E and 8–10 km NE of Cotija de la Paz, 1 Dec 1970, *McVaugh 24907* (MICH).

4. *Ibervillea guatemalensis* (Standl. & Steyererm.) Kearns, comb. nov. *Corallocarpus guatemalensis* Standl. & Steyererm., *Field Mus. Nat. Hist., Bot.* 23:93. 1944.—TYPE: GUATEMALA, ZACAPA: vicinity of Zacapa, 200 m, Oct 1940, *Standley 74623* (holotype: F!, photo K!). PARATYPE: GUATEMALA, CHIQUIMULA: along gorge of Río Chiquimula, between Santa Bárbara and Petapilla, 4–6 mi N of Chiquimula, 350–420 m, *Steyermark 30258* (F).

Representative specimens. GUATEMALA, EL PROGRESO: Hwy 9, 7 mi E of road to El Rancho, 14 Nov 1986, *Kearns 516* (MEXU, TEX); ZACAPA: between Zacapa and Chiquimula, 14 Nov 1986, *Kearns 519*, (MEXU, TEX). MEXICO, CHIAPAS: Trapichito, Comitán, 2 Jun 1945, *Matuda 5692* (MEXU).

Corallocarpus guatemalensis was described from sterile material collected in the dry central portion of southern Guatemala. Dieterle (1976) treated this as a synonym of *Doyerea emetocathartica* in her treatment of the Cucurbitaceae for the Flora of Guatemala, as did Jeffrey (1978) in his overview of the New World cucurbits. Collection and subsequent cultivation of rootstocks from the type locality (*Kearns 516, 519*) has led to the unmistakable conclusion that the previously available (sterile) specimens of *C. guatemalensis* were misidentified as *D. emetocathartica*. Given flowering material, it is obvious that Standley and Steyermark's plant is a species of *Ibervillea*. The taxon is noteworthy for having long, horizontally-oriented rootstocks. The type locality is situated in an area of serpentine soils. *Ibervillea guatemalensis* is closest to *I. hypoleuca* and *I. maxima*, sharing similar leaf pubescence, perennial stems with lenticels, and staminate floral structure. A complete description of this species will appear in the forthcoming revision of the genus (Kearns and Lira in prep.).

5. *Ibervillea millspaughii* (Cogn.) C. Jeffrey, *Kew Bull.* 33:348–349. 1978.

Corallocarpus millspaughii Cogn., *Publ. Field Mus. Nat. Hist., Bot. Ser.* 1:322, t. 20. 1896.—TYPE: MEXICO, Yucatan: near Izamal, *Gaumer 842* (syntypes: F, NY!, photo K!).

Representative specimens. MEXICO, VERACRUZ: Municipio Alvarado, 15 km NW of Alvarado, 3 Jan 1986, *Andres 172* (MICH, MO, NY, TEX); Tampico, 7 June 1910, *Palmer 500* (US). YUCATAN: forest of Suitun, May 1916, *Gaumer 23290* (NY); Merida, *Sousa 410* (MEXU, US). BELIZE, COROZAL DISTRICT: San Andres, Dec 1933, *Gentle 1088* (MICH, NY).

6. *Ibervillea lindheimeri* (A. Gray) Greene, *Erythea* 3:75. 1895.

Sicydium lindheimeri A. Gray, *Pl. Lindh.* 2:194. 1850. *Maximowiczia lindheimeri* (A. Gray) Cogn., *DC. Monogr. Phan.* 3:727. 1881.—TYPE: UNITED STATES, Texas: Comal Co: Comanche Springs, New Braunfels, 1850, *Lindheimer 612* (holotype: GH, isotype: K!, MO!).

Bryonia abyssinica Gouault, *Rev. Hort.* 1853:61. 1853. non Lam. 1785.

Sicydium tenellum Naud., *syn. nov.*, *Ann. Sci. Nat.* 4(16):167., pl. 1. 1862. *Maximowiczia tripartita* var. *tenella* (Naud.) Cogn.

in A. & C. DC. Monogr. Phan. 3:727. 1881. *Ibervillea tenella* (Naud.) Small, Fl. Southeastern U.S.A. 1136. 1903.—TYPE: FRANCE, Paris: cultivated in Botanic Garden from Texas seed sent by Victor Considérant, *Naudin s.n.* (holotype: P).

Sicydium tripartitum Naud., syn. nov., Ann. Sci. Nat. 4(16):166. 1862. *Maximowiczia tripartita* (Naud.) Cogn. in A. & C. DC. Monogr. Phan. 3:727. 1881. *Ibervillea tripartita* (Naud.) Greene, Erythea 3:75. 1895.—TYPE: FRANCE, Paris: cultivated in Botanic Garden from Texas seed sent by Victor Considérant, *Naudin s.n.* (holotype: P, photo: F, MICH!).

Representative specimens. UNITED STATES, TEXAS, Bell Co.: near Salado, 23 June 1930, *Wolff 2319* (US). Brazos Co.: College Station, 23 April 1918, *Palmer 13431* (MO, US). Calhoun Co.: Farewell Island, 22 May 1930, *Tharp s.n.* (MICH, MO, NY, TEX, UC). Kerr Co.: Kerrville, 3 May 1894, *Heller 1694* (MO, NY, UC, US). San Saba Co.: San Saba, 5 May 1917, *Palmer 11823* (MO, NY, US).

The listing of *Bryonia abyssinica* Gouault as a synonym of *Ibervillea lindheimeri* requires some explanation. In an account for *Revue Horticole*, Gouault (1853) misidentified a specimen of *I. lindheimeri* that he had growing in his garden as *B. abyssinica* Lam. Although the name he had chosen was wrong, Gouault correctly attributed its authorship to Lamarck. *Bryonia abyssinica* subsequently appeared in *Index Kewensis* and in *Monographie Phanerogamarum* (Cogniaux 1881) as a synonym of *I. lindheimeri* (as *Maximowiczia*), the authorship incorrectly attributed to Gouault. Cogniaux did note Lamarck's usage, but Gouault did not intend to describe a new taxon when he used Lamarck's species to identify his specimen of *Ibervillea*. Thus, Gouault's mistaken identification of *I. lindheimeri* entered the literature via a bibliographic mistake and is not a later homonym in the strict sense. *Bryonia abyssinica* is a synonym of *Coccinia abyssinica* (Lam.) Cogn. (Cogniaux 1881).

Naudin distinguished *Ibervillea tenella* and *I. tripartita* from *I. lindheimeri* largely on the basis of leaf shape and number of flowers per inflorescence, a conclusion derived from an inadequate sampling of the morphological diversity in *I. lindheimeri*, under which Naudin's species must be placed. The specimens cultivated by Naudin exemplify the variation among populations of *I. lindheimeri*. An examination of numerous *Ibervillea* collections from Texas indicates that there are only two resident species: *I. tenuisecta* in western Texas and *I. lindheimeri* in the central and eastern part of the state. Leaf shape in *I. lindheimeri* is quite variable and leaf segments tend to be narrower in the southern part of the state, resulting in some specimens being misidentified as *I. tenuisecta*. *Ibervillea lindheimeri* has globose seeds with hypogeal germination and uniseriate petal

trichomes, whereas *I. tenuisecta* has more flattened (but still tumescent) seeds with epigeal germination and shorter, capitate petal trichomes. For most populations, the fruits of *I. tenuisecta* are considerably smaller than those of *I. lindheimeri*.

7. *Ibervillea sonora* (S. Watson) Greene, *Erythea* 3:75. 1895.

Maximowiczia sonora S. Watson, *Proc. Amer. Acad. Arts* 24: 51. 1889.—TYPE: MEXICO, Sonora: Guaymas, 1887, *Palmer 283* (holotype: GH, isotypes: K!, NY!, US!).

Maximowiczia insularis Brandegee, *Univ. Calif. Publ. Bot.* 6:361. 1916. *Maximowiczia sonora* var. *brevicaulis* (T. Brandegee) I. M. Johnston, *Proc. Cal. Acad. Sci.* 4(12):1179–1180. 1924. *Ibervillea insularis* (Brandegee) Wiggins, *Flora of Baja California*. 391. 1980.—TYPE: MEXICO, Baja California: Magdalena Bay, 15 Jan 1889, *Brandegee s.n.* (holotype: UC #102050!).

Maximowiczia sonora var. *peninsularis* I. M. Johnston, *Proc. Cal. Acad. Sci.* 4:1178. 1924. *Ibervillea sonora* var. *peninsularis* (I. M. Johnston) Wiggins, *Flora of Baja California*. 391. 1980.—TYPE: MEXICO, Cerralbo Island, Gulf of California, on a sandy point just north of Gordas point, 6 Jun 1921, I. M. *Johnston 4026* (holotype: CAS!).

Ibervillea guarequi MacDougal, nom. nud. in *Old and New Plant Lore*, *Smithsonian Series* 11:278–279. 1931. Name and note only, not formally described. The attribution of the specific epithet was possibly an editing mistake, as “guarequi” is a common name for this species.

Representative specimens. MEXICO, BAJA CALIFORNIA SUR: Rancho Aguajito, Arroyo Gua, NW of Loreto, 26 Sep 1967, *Carter & Moran 5253* (UC, US); Santa Margarita Island, 20 Mar 1911, *Rose sn* (NY, US). SINALOA: Bahia Topolobampo, 5 Jan 1952, *Gentry 11449* (MICH). SONORA: 2 mi NE of San Carlos, 40 mi W of Hermosillo, 30 Aug 1941, *Wiggins & Rollins 185* (MICH, MO, NY, UC); 6.9 mi SE of Ciudad Obregon, 12 Sep 1973, *Stevens 2074-A* (MICH, MO).

8. *Ibervillea tenuisecta* (A. Gray) Small, *Fl. Southeastern U.S.* 1136, 1138. 1903.

Sicydium lindheimeri var. *tenuisectum* A. Gray, *Pl. Wright*. 1:75. 1852. *Maximowiczia lindheimeri* var. *tenuisecta* (A. Gray) Cogn., in *DC.*, *Monogr. Phan.* 3:728, 1881.—TYPE: UNITED STATES, New Mexico: near the Rio Grande, 1851, *Wright 221* (holotype: GH, isotype: K!).

Representative specimens. MEXICO, CHIHUAHUA: 20 mi E of Chihuahua City, 1 Aug 1949, *Freytag M93* (MEXU, MO). COA-

HUILA: 40 km S of Puerto del Gallo, 9 Aug 1973, *Johnston, Wendt & Chiang 12168* (MEXU, TEX). DURANGO: 63 km E of Ceballos, 7 Sep 1983, *Torres 3597* (MEXU, MO, NY). USA, TEXAS, Hudspeth Co.: 3.5 mi N of Acala, 31 Oct 1962, *Correll 26580* (TEX, UC). NEW MEXICO, Sierra Co.: Rio Grande, 30 mi N of Rincon, 5 Sep 1904, *Metcalf 1289* (MO, NY, UC, US).

9. *Ibervillea* sp.

Representative specimens. MEXICO, OAXACA: 6 km NE of Tehuantepec, 5 July 1959, *King 1333* (MICH, NY). VERACRUZ: Municipio Dos Ríos, La Cumbre, 3 Aug 1971, *Ventura 4003* (MICH); Municipio Puente Nacional, Tamarindo, 22 Jun 1971, *Ventura 3727* (MICH). YUCATAN: km 28, Mérida-Progresso road, 28 Jun 1971, *Stevens 1141* (MICH); Izamal, Jun 1916, *Guamer 23373* (NY).

Collections of an *Ibervillea* with crenate leaf margins from southern Mexico have been misidentified as *I. tripartita* (Lira, 1988; Standley, 1930). Because *I. tripartita* is a later name for *I. lindheimeri*, this Mexican species is without a legitimate name. A full description will be included in a forthcoming treatment of the genus (Kearns and Lira in prep.).

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Morning Symposium

Future of Plant Systematics, Science, and Society Brent Mishler
Flowers in the Garden: What Next for California Floristics?
..... Dieter Wilken
Cooperation and Collaboration: Herbaria and Botanical Gardens
..... George Rogers
Rarity in California Peggy Fiedler

Afternoon Workshops (concurrent)

Threats to the California Flora; Collecting Guidelines and Documentation Technique; California Native Plant Society; How to Use the Jepson Manual; The Use of California Natives in the Landscape; Botanical Transect; Bodega Bay to Vacaville; Agency Activities; Computer Options for Systematics

Dinner and Evening Talk: Peter Raven

SUNDAY, 5 JUNE

Field Trips

For detailed information on registration and activities write to:

Friends of the Jepson Herbarium,
University of California, Berkeley, California 94720.